

# Monkeypox Specimen Testing at Washington State Public Health Laboratories (WAPHL)

The WAPHL tests swab specimens for orthopoxvirus and for smallpox using real-time reverse transcriptase polymerase chain reaction (RT-PCR) assays developed by CDC. All orthopoxvirus positive specimens are sent to CDC for specific monkeypox testing. Tell the case patient to self-isolate and avoid contact with people and animals until testing is completed.

**After approval from a local health jurisdiction and DOH consult, WAPHL will do orthopoxvirus tests for a person having a rash consistent with monkeypox AND no alternate explanation AND negative results for pertinent tests (e.g., syphilis, herpes) AND a clear risk factor:**

- Traveled recently to a country with endemic or outbreak monkeypox cases *OR*
- Contact with a person with confirmed monkeypox or a similar rash *OR*
- Close or intimate in-person contact with persons in a group experiencing monkeypox activity *OR*
- Contact with an exotic animal, its body, or derived products (e.g., meat, powder)

## Specimen Collection

Acceptable specimens are swabs and serum (below). Also test for other causes of rashes such as syphilis, herpes, or chickenpox. Dual infections can occur (e.g., herpes and monkeypox).

- Swabs of lesions or scabs (testing not available for oral/pharyngeal or rectal swabs)
- Serum (acute and convalescent) for cases if all lesions resolved

## Key points for swab specimen collection from lesions after approval is obtained

- Use appropriate infection control procedures (gown, gloves, eye protection, NIOSH approved N95 respirator or equivalent/higher respiratory protection)
- Collect swabs from a minimum of **two** lesions in separate vials (no more than **four**)
- Use sterile synthetic Dacron, polyester or nylon swabs, with a plastic or wire handle
- For a fresh lesion, clean with alcohol wipes, unroof lesion with a sterile needle or sterile scalpel, and rub the swab vigorously over the base of the lesion to collect patient cells
- If fully scabbed over, clean a scab with alcohol wipes and rub vigorously with the swab
- Do not let a swab come into contact with reagents used for other tests.
- Immediately after collection, place each swab tip into a dry sterile screw-top O-ring vial (one swab per vial) and aseptically break or cut off the handle. DO **NOT** ADD viral transport medium. Close each vial tightly. Refrigerate within an hour of collection.
- Label **each** vial with patient's name AND a second identifier AND collection date AND specimen source (e.g., dorsal left hand lesion) – each description should be unique

## Key points for serum collection if no active lesions after approval is obtained

For a patient who had a consistent rash that has healed completely, convalescent serum might be approved for testing. Use of plastic tubes is recommended. Collect 7 to 10 cc of patient blood into a red/gray (marbled), gold, or red topped serum, spin the serum tube and submit the serum in a new sterile tube. Also collect a lavender-top EDTA whole blood tube.

Label each tube with patient's name AND a second identifier AND collection date.

## Storing and shipping of specimens

Optimal results are with refrigerated (2–8°C) within an hour of collection and shipped to arrive within 24 hours of collection. If the specimen will not arrive within 24 hours, specimens (except serum) should be frozen at ≤ -70°C and shipped on dry ice. Refrigerate serum up to seven days.

Each specimen should be packed in its own sealed bag and accompanied by its own sample submission form. Multiple specimens can be placed in a secondary outer bag or container.

For each specimen provide a completed BT form include the unique specimen source for a lesion: [302-018 Bioterrorism Specimen Submission \(wa.gov\)](https://www.wa.gov/302-018-Bioterrorism-Specimen-Submission)

All persons shipping packages with medical specimens must have documented shipping training (USDOT and USPS Regulations for Packaging and Labeling Infectious Substances). Currently specimens should be shipped Category B ([Shipping | Washington State Department of Health](#)).

## Reporting of results

WAPHL laboratories can confirm **non-smallpox orthopoxvirus**, which includes monkeypoxvirus, smallpox, smallpox vaccine virus, and various animal pox viruses. Positive specimens are sent for confirmation of monkeypoxvirus at the Centers for Disease Control and Prevention.

## For more information:

Current outbreak: [2022 United States Monkeypox Case | Monkeypox | Poxvirus | CDC](#)

Providers wanting to test a specific patient should contact their local health jurisdiction: [Washington State Local Health Jurisdictions | Washington State Department of Health](#)

CDC monkeypox clinical resources: [Information For Clinicians | Monkeypox | Poxvirus | CDC](#) and [Webinar May 24, 2022 - What Clinicians Need to Know about Monkeypox in the United States and Other Countries \(cdc.gov\)](#)

Specimen information about testing for orthopoxviruses: [Specimen Collection and Transport Guidelines for Suspect Smallpox Cases | Smallpox | CDC](#)

Laboratory guidance: [Information For Laboratory Personnel | Monkeypox | Poxvirus | CDC](#)